

What is Claimed is:

1. A hardened voyage data recorder,  
comprising:

(a) a removable memory subsystem;  
(b) a mounting base subsystem removably  
5 coupled to said memory subsystem, wherein said mounting  
base subsystem protects and includes therein electronic  
circuits for electronically accessing said memory  
subsystem.

2. A hardened voyage data recorder  
according to claim 1, wherein:

said electronic circuits provide an  
ETHERNET access port for coupling said hardened voyage  
5 recorder to an ETHERNET network.

3. A hardened voyage data recorder  
according to claim 2, wherein:

said electronic circuits include  
firmware which provides TCP/IP access over ETHERNET to  
5 said circuits.

4. A hardened voyage data recorder  
according to claim 3, wherein:

said firmware includes web pages for  
configuring said hardened voyage data recorder.

5. A hardened voyage data recorder  
according to claim 1, wherein:

said mounting base subsystem includes at least one  
watertight cable connector.

6. A hardened voyage data recorder according to claim 2, wherein:

5       said mounting base subsystem includes a first watertight cable connector for coupling with a power supply and a second cable connector for coupling with an ETHERNET network.

7. A hardened voyage data recorder according to claim 1, wherein:

      said electronic circuits accept both 110/220 VAC and 24 VDC power supplies.

8. A hardened voyage data recorder according to claim 1, further comprising:

5       a quick release clamp, wherein said removable memory subsystem has a lower flange, said mounting base subsystem has an upper flange, and said quick release clamp engages said upper flange and said lower flange whereby said memory subsystem and said base subsystem are removably coupled to each other.

9. A hardened voyage data recorder according to claim 8, wherein:

      said quick release clamp has two quick release levers.

10. A hardened voyage data recorder according to claim 1, wherein:

      said removable memory subsystem includes non-volatile memory enclosed within a boiler.

11. A hardened voyage data recorder,  
comprising:

- (a) a removable memory subsystem; and
- (b) a mounting base subsystem removably  
5 coupled to said memory subsystem, wherein said  
removable memory subsystem includes non-volatile memory  
enclosed within a boiler, and said mounting base  
subsystem is adapted to be mounted on the exterior of a  
marine vessel.

12. A hardened voyage data recorder  
according to claim 11, wherein:

said mounting base subsystem includes at  
least one watertight cable connector.

13. A hardened voyage data recorder  
according to claim 11, wherein:

- said mounting base subsystem includes a  
first watertight cable connector for coupling with a  
5 power supply and a second cable connector for coupling  
with a data source.

14. A hardened voyage data recorder  
according to claim 11, further comprising:

- a quick release clamp, wherein said  
removable memory subsystem has a lower flange, said  
5 mounting base subsystem has an upper flange, and said  
quick release clamp engages said upper flange and said  
lower flange whereby said memory subsystem and said  
base subsystem are removably coupled to each other.

15. A hardened voyage data recorder according to claim 14, wherein:

said quick release clamp has two quick release levers.

16. A hardened voyage data recorder according to claim 14, wherein:

one of said upper flange and said lower flange has a groove adapted to receive an O-ring.

17. A hardened voyage data recorder according to claim 14, wherein:

said upper flange has two concentric grooves, each adapted to receive an O-ring.

18. A hardened voyage data recorder according to claim 17, further comprising:

one o-ring and one mesh gasket,

one disposed in one of said two concentric grooves and the other disposed in the other of said two concentric grooves.

19. A hardened voyage data recorder, comprising:

(a) a removable memory subsystem;

(b) a mounting base subsystem removably coupled to said memory subsystem; and

(c) at least one memory interface converter chip coupled to said removable memory subsystem.

20. A hardened voyage data recorder according to claim 19, wherein:

said mounting base subsystem includes at least one watertight cable connector.

21. A hardened voyage data recorder according to claim 19, wherein:

said mounting base subsystem includes a first watertight cable connector for coupling with a power supply and a second cable connector for coupling with a data source.

22. A hardened voyage data recorder according to claim 19, further comprising:

a quick release clamp, wherein said removable memory subsystem has a lower flange, said mounting base subsystem has an upper flange, and said quick release clamp engages said upper flange and said lower flange whereby said memory subsystem and said base subsystem are removably coupled to each other.

23. A hardened voyage data recorder according to claim 22, wherein:

said quick release clamp has two quick release levers.

24. A hardened voyage data recorder according to claim 22, wherein:

one of said upper flange and said lower flange has a groove adapted to receive an O-ring.

25. A hardened voyage data recorder according to claim 22, wherein:

said upper flange has two concentric grooves, each adapted to receive an O-ring.

26. A hardened voyage data recorder according to claim 25, further comprising:

one o-ring and one mesh gasket, one disposed in one of said two concentric grooves and the  
5 other disposed in the other of said two concentric grooves.

27. A hardened voyage data recorder, comprising:

(a) a removable memory subsystem, wherein said removable memory subsystem includes a  
5 stacked memory and a plurality of memory interface chips arranged for communication with a processor such that a large number of memory chips may be driven; and

(b) a mounting base subsystem removably coupled to said memory subsystem.

28. A hardened voyage data recorder according to claim 27, wherein:

said mounting base subsystem includes at least one watertight cable connector.

29. A hardened voyage data recorder according to claim 27, wherein:

said mounting base subsystem includes a first watertight cable connector for coupling with a  
5 power supply and a second cable connector for coupling with a data source.

30. A hardened voyage data recorder according to claim 27, further comprising:

5 a quick release clamp, wherein said removable memory subsystem has a lower flange, said mounting base subsystem has an upper flange, and said quick release clamp engages said upper flange and said lower flange whereby said memory subsystem and said base subsystem are removably coupled to each other.

31. A hardened voyage data recorder according to claim 30, wherein:

said quick release clamp has two quick release levers.

32. A hardened voyage data recorder according to claim 30, wherein:

one of said upper flange and said lower flange has a groove adapted to receive an O-ring.

33. A hardened voyage data recorder according to claim 30, wherein:

said upper flange has two concentric grooves, each adapted to receive an O-ring.

34. A hardened voyage data recorder according to claim 33, further comprising:

5 one o-ring and one mesh gasket,  
one disposed in one of said two concentric grooves and the other disposed in the other of said two concentric grooves.